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Selective Metallisation of Nucleic Acids via Metal Nanoparticles Produced In-situ

ABSTRACT

The present invention provides an improved process for the direct and selective metallisation of nucleic acids via metal nanoparticles produced in-situ in which a nucleic acid specific metal complex is reacted with a nucleic acid to produce a metal complex-nucleic acid conjugate, non-conjugated metal complex and/or non-conjugated by-products are removed, and the metal complex-nucleic acid conjugate is reacted with a reducing agent to produce a metal nanoparticle-nucleic acid composite. The metal nanoparticle-nucleic acid composites may be used, e. g., in the formation of nanowires, for electronic networks and circuits allowing a high density arrangement.